

**CYCLE II EXTERNAL
ENVIRONMENTAL COMPLIANCE ASSESSMENT
PRELIMINARY FINDINGS REPORT**

**NEW BEDFORD HURRICANE BARRIER
New Bedford/Fairhaven, Massachusetts**

**U.S. Army Corps of Engineers
New England District
424 Trapelo Road
Waltham, Massachusetts
02254-9149**

August 1997



**US Army Corps
of Engineers®**

New England District

For Inter Corps Distribution Only

27 August 1997

MEMORANDUM FOR Environmental Compliance Coordinator, NAE

SUBJECT: Environmental Compliance Assessment of New Bedford Hurricane Barrier

1. Attached please find the Cycle II Preliminary Findings Report for the environmental compliance assessment conducted at the New Bedford Hurricane Barrier on 16 April 1996.
2. A draft report was prepared and then discussed in a meeting with Canal staff on 24 July 1997. Their comments have been incorporated into the final report.
3. I recommend your approval for implementation.



Jeff Deyette
Operations Technical
Support Section

Encl

CMT 2

1. Environmental Compliance Assessment of New Bedford Hurricane Barrier is:

Approved X Disapproved _____ for implementation as stated.



Bruce Williams, ECC
Operations Technical
Support Section

EXECUTIVE SUMMARY

An environmental compliance assessment of the New Bedford Hurricane Barrier was conducted by a team of New England District environmental professionals on 16 April 1996. This was a Cycle II External Assessment. The Cycle I External Assessment was conducted on 20 May 1994.

The assessment was conducted as part of the U.S. Army Corps of Engineers Environmental Review Guide for Operations (ERGO) program. The ERGO program, developed by the U.S. Army establishes the use of environmental compliance assessments to ensure compliance with all applicable Federal, State, local, Department of Defense, and U.S. Army environmental laws and regulations.

A comprehensive ERGO assessment considers 13 major environmental compliance categories. For each category, Federal, state and local laws, Department of Defense and U.S. Army Corps of Engineers regulations, and good management practices are reviewed.

Overall the project was well maintained. The summary of deficiencies at the New Bedford Hurricane Barrier is as follows:

Significant Deficiencies - 0

Problems that pose a direct and immediate threat to human health, safety, the environment or the facility's mission, and require immediate attention.

Major Deficiencies - 1

Problems that require action, but not necessarily immediate action, and pose a threat to human health, safety or the environment.

Minor Deficiencies - 6

Deficiencies that are usually administrative in nature. These problems require monitoring or planning for future mitigation.

Management Practice - 0

Items noted are not specifically covered by a distinctive regulatory requirement; however, they still require management attention.

TABLE OF CONTENTS

INTRODUCTION

1) The ERGO Program	1
2) Assessment Procedures	2
3) ERGO Program Objectives	3
4) Description of Regulatory Compliance	4
5) Summary of Deficiencies by Category	5

NEW BEDFORD HURRICANE BARRIER STATUS:

1) Air Emissions Management	6
2) Cultural Resources Management	7
3) Hazardous Materials Management	9
4) Hazardous Waste Management	11
5) Natural Resources Management	12
6) Other Environmental Issues (Environmental Impacts, Environmental Noise, Pollution Prevention, Program Management)	16
7) Pesticide Management	17
8) Petroleum, Oil and Lubricant (POL) Management	18
9) Solid Waste Management	20
10) Storage Tank Management	21
11) Toxic Substances Management (PCBs, Asbestos, Radon, Lead Based Paint)	22
12) Wastewater Management	25
13) Water Quality Management	27
 New England District ERGO Assessment Team	 29

APPENDICES

- A) Previsit Questionnaires
- B) Supporting Documents

THE ERGO PROGRAM

The U.S. Army Corps of Engineers initiated the Environmental Review Guide for Operations (ERGO) program as a comprehensive self-evaluation and program management system for achieving, maintaining, and monitoring compliance with environmental laws and regulations at Corps of Engineers projects and facilities. Objectives of the ERGO program are to:

- 1) Enhance Corps of Engineers environmental compliance at Federal, State and local levels.
- 2) Improve Corps of Engineers environmental management.
- 3) Build supporting financial programs and budgets.
- 4) Assure supervisors that their environmental programs are being implemented effectively in accordance with Corps of Engineers goals and objectives.

Periodic environmental compliance assessments have been deemed necessary. These evaluations are designed to assess environmental compliance and provide necessary feedback to Project Managers for organizing, directing, and controlling environmental compliance and protection activities.

New England District's (NAE's) ERGO program became operational in 1991. Because it is responsible for the majority of USACE facilities, Construction/Operations Directorate is tasked with the development and implementation of the ERGO program. Every five years, each NAE project undergoes an external environmental compliance assessment. This assessment is conducted by a team of environmental professionals. Every NAE project has already had one external environmental compliance assessment. The assessment described in this report is the second external assessment for this project, and is therefore known as a Cycle II External Environmental Compliance Assessment. The project itself is responsible for performing an internal self-assessment annually, with the exception of those years when an external assessment is being completed.

ASSESSMENT PROCEDURES

The ERGO assessment of the Cape Cod Canal was conducted by a seven person team comprised of NAE personnel, and took place on 16 April 1996. The team followed a three phase approach. The first phase was to obtain pre-assessment information concerning its on-site activities (see Appendix A - Previsit Questionnaires) and research applicable Federal, State and local environmental regulations. This culminated in the development of site/facility-specific categories.

The second phase involved the on-site portion of the assessment. This involved an interview with project staff, followed by a facility tour, to obtain a general overview of the facility operations. Typically, the team members would interview project staff responsible for a particular functional area, visually inspect the operations, and verify that required written documentation was in place. When possible, all deficiencies were reported to facility personnel. The team concluded the on-site portion of the assessment by briefing the project staff to apprise them of the review team's preliminary findings.

The third phase involves writing a draft report and developing an action plan for addressing outstanding deficiencies. The evaluation of the New Bedford Hurricane Barrier followed the above procedures and covered the elements set forth in the 13 ERGO compliance categories.

The assessment was conducted in accordance with the best professional judgement of the ERGO team members. It should be understood that the assessment is based on observations taken over a short span of time relative to the period under review. Efforts were directed toward reviewing major facets of environmental performance in the period covered and, therefore, it is important to recognize that this assessment may not necessarily identify all potential problems.

Successful completion of the site-specific environmental evaluation of the New Bedford Hurricane Barrier was dependent on complete disclosure by project staff of all information regarding the operation and maintenance activities at the project. It should be noted that failure of the Engineer in Charge or Project Manager to provide complete or adequate information to the review team does not relieve them of responsibility for compliance with environmental regulations.

ERGO PROGRAM OBJECTIVES

The Environmental Review Guide for Operations (ERGO) program guidance is embodied primarily in two publications: The Environmental Assessment and Management (TEAM) Guide, applicable to participating DoD components, and the Supplement to The Environmental Assessment and Management (TEAM) Guide, applicable to Corps of Engineers Civil Works activities, operating projects and floating plant, including outgranted lands and concessions. In addition, state-specific supplements are available for some states.

Objectives of the TEAM Guide are as follows:

1. Compile applicable Federal regulations with DoD component operations and activities.
2. Synthesize environmental regulations, management practices, and risk management issues into consistent and easy to use checklists.
3. Serve as an aid in the assessment process and management action development phases of DoD component environmental assessment programs.

Objectives of the Supplement to the TEAM Guide are as follows:

1. Compile applicable DoD regulations, and Engineer Regulations (ERs) associated with USACE operations and activities.
2. Synthesize regulations, management practices, and risk management issues into consistent and easy-to-use checklists.
3. Serve as a reference document and educational tool for daily operations.
4. Serve as a guide for implementing the U.S. Army Environmental Strategy Into the 21st Century, which emphasizes environmental stewardship as an integral part of everything the USACE does.

DESCRIPTION OF REGULATORY COMPLIANCE

This section of the report presents a description of finding categories that are governed by engineering regulations, engineering manuals, and Federal, state, and local regulations. Non-regulatory items, which are referred to in this report as management practices, are of a lower priority but require attention to correct.

Deficiencies noted in this evaluation will be categorized as follows:

SIGNIFICANT DEFICIENCY:

A problem categorized as significant requires immediate attention. It poses, or has a high likelihood to pose, a direct and immediate threat to human health, safety, the environment, or the facility's mission.

MAJOR DEFICIENCY:

A major deficiency requires action, but not necessarily immediate action. Major deficiencies may pose a threat to human health, safety or the environment. Any immediate threat, however, must be categorized as significant.

MINOR DEFICIENCY:

Minor deficiencies are usually administrative in nature, even though those findings might possibly result in a notice of violation. This category may also include temporary or occasional instances of noncompliance.

MANAGEMENT PRACTICE:

Management practice items are those for which there is no specific regulatory requirement; however they still require management attention.

SUMMARY OF DEFICIENCIES BY CATEGORY

New Bedford Hurricane Barrier

ERGO Compliance Categories	Findings			
	Significant	Major	Minor	Management Practice
Air Emissions Management	0	0	0	0
Cultural Resources Management	0	0	0	0
Hazardous Materials Management	0	1	0	0
Hazardous Waste Management	0	0	0	0
Natural Resources Management	0	0	3	0
Other Environmental Issues	0	0	0	0
Pesticide Management	0	0	0	0
POL Management	0	0	1	0
Solid Waste Management	0	0	0	0
Storage Tank Management	0	0	0	0
Toxic Substances Management	0	0	2	0
Wastewater Management	0	0	0	0
Water Quality Management	0	0	0	0
Totals	0	1	6	0

AIR EMISSIONS MANAGEMENT

No Findings

CULTURAL RESOURCES MANAGEMENT

No Findings

Cultural Resources Management

Narrative-

As noted during the site visit, all related photographs of the project have been consolidated into a single three ring binder. This binder is kept at the New Bedford Hurricane Barrier Office and copies were also sent to the Cape Cod Canal archives facility for storage.

No other cultural resources issues are expected due to the limited amount of project fee lands and the significant amount of ground disturbance and modification present in these areas.

HAZARDOUS MATERIALS MANAGEMENT

FINDING SUMMARY

INDIVIDUAL FINDING SHEET

99999 XX OTHER

New Bedford Hurricane Barrier

Type of Finding: NEGATIVE

Finding Category: MAJOR

Condition (What did you find?)

The facility does not have a written Oil and Hazardous Substances Pollution Contingency (OHSPC) Plan.

Criteria (What is the actual requirement?)

HM.4. Facilities must have a written OHSPC Plan for spill events (40 CFR 300.105(a) and ER 1130-2-434, para 7c).

Suggested Solutions:

Develop and finalize a written OHSPC Plan for the facility. Once finalized, the OHSPC Plan must be signed by a Professional Engineer and then approved by the District Environmental Compliance Coordinator and District Commander. The final OHSPC Plan must be submitted to the Regional Administrator, U.S. EPA, Region 1. The POC is David W. Tordoff, Emergency Response Section (617) 860-4362.

Comments:

The OHSPC Plan for this facility is to be included in the Cape Cod Canal OHSPC Plan. A draft OHSPC Plan for the Cape Cod Canal is currently in its final stages. Prior to finalization, the plan should be sent to the U.S. Coast Guard for comment and coordination.

HAZARDOUS WASTE MANAGEMENT

No Findings

NATURAL RESOURCES MANAGEMENT

FINDING SUMMARY

INDIVIDUAL FINDING SHEET

99999 XX OTHER

New Bedford Hurricane Barrier

Type of Finding: NEGATIVE

Finding Category: MINOR

Condition (What did you find?)

Wetlands at the project have not been identified and protected.

Criteria (What is the actual requirement?)

NR.7. Floodplains and wetlands should be identified and protected.

Suggested Solutions:

Map wetlands and wetland community types in accordance with ER 1130-2-540. Documentation should also include a discussion of the impacts of project operation and maintenance on adjacent wetlands communities.

Comments:

The Project Manager has scheduled wetland mapping for FY 2000. Results of wetland delineation should be included in the revision of the project Environmental Assessment.

FINDING SUMMARY
INDIVIDUAL FINDING SHEET

99999 XX OTHER

New Bedford Hurricane Barrier

Type of Finding: NEGATIVE

Finding Category: MINOR

Condition (What did you find?)

The project lacks a threatened/endangered species survey.

Criteria (What is the actual requirement?)

NR.9. Emphasis should be placed on the maintenance and restoration of habitat favorable to the production of indigenous fish and wildlife.

Suggested Solutions:

Conduct survey of project for threatened/endangered species and rare plant communities. Survey should include an evaluation of the potential impacts of the facility's operation on affected aquatic, anadromous or migratory species.

Comments:

The project manager has scheduled a threatened/endangered species survey for FY 2000. The survey should be completed in coordination with NAE's Endangered Species Coordinator. Results of the survey should be included in the revision of the project EA.

FINDING SUMMARY

INDIVIDUAL FINDING SHEET

99999 XX OTHER

New Bedford Hurricane Barrier

Type of Finding: NEGATIVE

Finding Category: MINOR

Condition (What did you find?)

The Environmental Assessment (EA) for the operation and maintenance of the New Bedford Hurricane Barrier was written in 1973 and does not adequately describe existing resources, activities, or impacts.

Criteria (What is the actual requirement?)

An updated EA/FONSI assessing impacts of project operation and maintenance on natural and cultural resources is necessary to comply with the intent of the National Environmental Policy Act (NEPA).

Suggested Solutions:

Update the project EA.

Comments:

The Project Manager has scheduled an update of the EA for FY 2000. The revised EA should include a section which discusses impacts on natural communities and populations.

OTHER ENVIRONMENTAL ISSUES

No Findings

PESTICIDE MANAGEMENT

No Findings

**PETROLEUM, OIL AND LUBRICANT
MANAGEMENT**

FINDING SUMMARY

INDIVIDUAL FINDING SHEET

99999 XX OTHER

New Bedford Hurricane Barrier

Type of Finding: NEGATIVE

Finding Category: MINOR

Condition (What did you find?)

The facility does not perform mock spill or training events for potential petroleum substance discharges (spills) in accordance with an approved OHSPC Plan.

Criteria (What is the actual requirement?)

PO.10.3. Facilities that are required to have a response plan are also required to develop and implement a facility response training program and a drill/exercise program that meet specific parameters (40 CFR 112.21).

Suggested Solutions:

Perform mock spill event and training exercises.

Comments:

The Project Manager should implement a facility response training program, ensuring that all permanent project staff have attended First Responder training, and that a drill/exercise program is implemented.

SOLID WASTE MANAGEMENT

No Findings

STORAGE TANK MANAGEMENT

No Findings

TOXIC SUBSTANCES MANAGEMENT

FINDING SUMMARY

INDIVIDUAL FINDING SHEET

99999 XX OTHER

New Bedford Hurricane Barrier

Type of Finding: NEGATIVE

Finding Category: MINOR

Condition (What did you find?)

The servicing Cape Cod Canal Electrician has stated that there is an inventory of all PCB containers at the New Bedford Hurricane Barrier, but could not produce the inventory. The inventory was submitted to be included into the GIS mapping and record system.

Criteria (What is the actual requirement?)

T1.2. Certain regulations and practices must be followed to ensure the health of personnel who come in contact with PCBs (ER 1130-2-423, para 7).

Suggested Solutions:

Obtain a copy of the inventory ensuring that all PCBs on-site are identified and appropriately labelled on their containers.

Comments:

40 CFR 761.40, 761.45 and ERGO Team manual 11-15 and 11-16 regulate the labelling of items containing PCBs, including format and location of labels.

FINDING SUMMARY

INDIVIDUAL FINDING SHEET

99999 XX OTHER

New Bedford Hurricane Barrier

Type of Finding: NEGATIVE

Finding Category: MINOR

Condition (What did you find?)

The Project Manager sampled material suspected of containing asbestos and had it analyzed by a certified laboratory. The results of analysis on the sampled material showed no traces of asbestos (See Appendix B). The Project Manager does not meet the qualification requirements for conducting asbestos surveys.

Criteria (What is the actual requirement?)

T2.2. Facility buildings with the potential to be contaminated with asbestos should be tested and surveyed for asbestos and friable material.

Suggested Solutions:

The Project Manager should have a qualified person (e.g. NAE Industrial Hygienist or licensed contractor) determine if the initial asbestos survey is acceptable.

Comments:

The accreditation requirements for all persons who inspect for asbestos containing building materials can be found in 40 CFR 763 (Subpt. E, App. C)

Note: This qualification was enacted to protect the health of Corps employees and minimize exposure to asbestos containing material (ACM).

WASTEWATER MANAGEMENT

No Findings

Wastewater Management

Narrative-

Inspection of the New Bedford Hurricane Barrier was carried out on 16 April 1996. Barrier personnel appear to be taking environmental compliance seriously. No change was reported in water supply or disposal systems. Water for the toilet and sink is trucked in; bottled commercial water is used for drinking. Wastewater is sent to a concrete holding tank that is pumped out as needed.

No deficiencies were identified relating to wastewater disposal in this external assessment.

WATER QUALITY MANAGEMENT

No Findings

Water Quality Management

Narrative-

Inspection of the New Bedford Hurricane Barrier was carried out on 16 April 1996. Barrier personnel appear to be taking environmental compliance seriously. No change was reported in water supply or disposal systems. Water for the toilet and sink is trucked in; bottled commercial water is used for drinking.

No deficiencies were identified relating to wastewater disposal in this external assessment.

NEW ENGLAND DISTRICT
ERGO TEAM

Bruce Williams - Program Manager
Construction-Operations Division - Operations Technical Support Section

Joseph Horowitz - ERGO Team Leader
Engineering-Planning Division - Environmental Resources Section

Judi Johnson
Engineering-Planning Division - Environmental Resources Section

Robert Davis
Engineering-Planning Division - Environmental Resources Section

Marc Paiva
Engineering-Planning Division - Economic and Cultural Resources Section

Townsend Barker
Engineering-Planning Division - Water Quality Management Branch
Chairman, NAE's Water Quality Team

James Peck
Chief, Safety and Occupational Health Office

Anne Laster
Real Estate Division - Conveyancing Branch

The ERGO Team would like to thank the following individuals who participated in the pre-assessment evaluation, field inspection and/or in the research and evaluation of environmental compliance guidance:

New Bedford Hurricane Barrier

Frank Ciccone - Engineer in Charge
Robert Rousseau - Project Manager

APPENDICES

APPENDIX A:
Previsit Questionnaires

Table 1

ERGO PREVISIT QUESTIONNAIRE (PVQ)

This questionnaire will provide background information necessary to plan and conduct an environmental compliance assessment. Additionally it provides insight for properly designing the composition of expertise on the assessment team.

Name of Facility: New Bedford Hurricane Barrier
 Environmental POC: Bob Rousseau
 Telephone Number: (508) 944-4243

RESPONSE REFERENCE
 IN TEAM

Section 1. Air Emissions Management

1. Does the facility have any air permits to maintain with state regulatory authority (i.e. boilers, pathological incinerators, operating or construction permits, paint spray booths, POL tank vents, etc.)? Inclusively list the types and numbers of each:

NO

If YES, see checklist item A.1.3

Type of Permit	Quantity

2. Does the facility operate a fuel burner (central steam plant or hot water steam boiler)?

yes

If YES, see checklist item A.10.1 through A.10.10

If YES, how large and what fuel is used?

Size	Fuel
<u>435,000 BTU</u>	<u>Diesel</u>

3. Does the facility operate an incinerator (i.e., for classified documents, solid waste, sewage sludge, etc.)? If YES, please list type and number.

NO

If YES, see checklist item A.25.1 through A.25.3 and A.41.1 through A.45.8

Type	Number

4. Does the facility operate fuel dispensing facilities?

NO

If YES, see checklist item A.55.1 through A.55.6

How many? _____

5. Does the facility use any volatile organic compound (VOC) based solvent degreasers?

NO

If YES, see checklist item A.1.3

- | | RESPONSE | REFERENCE
IN TEAM | | | | | | | | |
|---|------------|---|------|----------|---------|-------|---------|-------|----------|-------|
| 6. Does the facility operate maintenance shops? | <u>yes</u> | If YES, see checklist item A.1.3, A.85.1 through A.95.2 | | | | | | | | |
| <table border="0"> <thead> <tr> <th>Type</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td>Wheeled</td> <td>_____</td> </tr> <tr> <td>Tracked</td> <td>_____</td> </tr> <tr> <td>Aircraft</td> <td>_____</td> </tr> </tbody> </table> <p>Please list any additionally shop activities that generate any form of air pollution (i.e., vehicle emissions systems, ventilation systems for various operations, etc.)</p> <p>_____</p> <p>_____</p> <p>_____</p> | | | Type | Quantity | Wheeled | _____ | Tracked | _____ | Aircraft | _____ |
| Type | Quantity | | | | | | | | | |
| Wheeled | _____ | | | | | | | | | |
| Tracked | _____ | | | | | | | | | |
| Aircraft | _____ | | | | | | | | | |
| 7. Does the facility operate equipment or processes that could lead to fugitive emissions of vinyl chlorides or benzene? | <u>NO</u> | If YES, see checklist item A.65.1 through A.65.7 | | | | | | | | |
| What types of equipment? _____ | | | | | | | | | | |
| 8. Does the facility procure/use chlorofluorocarbons (CFC) or halon substances? | <u>NO</u> | If YES, see checklist item A.85.1 through A.85.4 | | | | | | | | |
| 9. Does the facility repair any units containing refrigerant? | <u>NO</u> | If YES, see checklist item A.90.1 through A.95.2 | | | | | | | | |
| 10. Does the facility recycle/reclaim CFCs or halon? | <u>NO</u> | If YES, see checklist item A.90.1 through A.95.2 | | | | | | | | |
| 11. Does the facility have any vapor emissions requirements for oil/water separators that have been imposed upon them. | <u>NO</u> | If YES, see checklist item A.1.3 | | | | | | | | |

	RESPONSE	REFERENCE IN TEAM
--	----------	----------------------

Section 2. Cultural Resources Management

- | | | |
|---|-----------|--|
| 1. Does the facility have any cultural resources eligible for or that are currently listed in the National Register of Historic Places? | <u>NO</u> | If YES, see checklist item C.5.1 through C.5.3 |
| 2. Are there any cultural resources (archeological sites, buildings over 50 yr old) that have not been evaluated for the National Register? | <u>NO</u> | If YES, see checklist item C.5.1 through C.5.3 |
| 3. Does the facility Master Plan contain a cultural resources overlay that is utilized for planning purposes? | <u>NO</u> | If YES, see checklist item C.5.1.1 |
| 4. Is there an on-staff Cultural Resources Coordinator? | <u>NO</u> | See Supplement |
| 5. If not, does a staff person have cultural resources as "other duties as assigned"? | <u>NO</u> | See Supplement |
| 6. Does the facility have any archeological artifacts in storage? | | If YES, see checklist item C.20.1 through C.20.9 |
| 7. Does the facility have in storage, or know of, any locations of Native American burials, cemeteries, or human remains? | <u>NO</u> | If YES, see checklist item C.15.1 through C.15.2 |
| 8. Are there any areas on the facility considered to have religious importance to any Native American Tribe? | <u>NO</u> | If YES, see checklist item C.10.1 |

RESPONSE

REFERENCE
IN TEAM

Section 3. Hazardous Materials Management

1. Has the facility conducted training for individuals working with hazardous materials?

Yes

If YES, see
checklist item
HM.10.1
through
HM.10.2

2. Does the facility have an Oil and Hazardous Substances Contingency Plan (OHSCP)?

No

If YES, see
checklist item
HM.1.3

3. Does the facility store any extremely hazardous substances?

No

If YES, see
checklist item
HM.25.1

4. Does the facility store at one time 10,000 lb or more of any hazardous substances that requires a Material Safety Data Sheet (MSDS) (fuel is a hazardous substance which requires an MSDS)?

No

If YES, see
checklist item
HM.30.1
through
HM.30.3

(NOTE: Using water as a basis of measurement, 10,000 lb is approx. 1,250 gal.)

Please list substances

5. Does the facility store any flammable/combustible liquids?

Yes

If YES, see
checklist item
HM.35.1
through
HM.40.3

6. Does the facility store any compressed gases?

Yes

If YES, see
checklist item
HM.45.1

2 - Nitrogen Cylinders
1 - Acetylene Tank

RESPONSE

**REFERENCE
IN TEAM**

Section 4. Hazardous Waste Management

1. Is the facility a generator of hazardous waste?

YES

If YES, see
checklist item
HW.10.1
through
HW.10.2

2. Does the facility generate less than 100 kg [220.46 lb. approx. 28 gal] of hazardous waste in 1 mo?

NO

If YES, see
checklist item
HW.15.1
through
HW.15.6

3. Does the facility generate more than 100 kg [220.46 lb. approx. 28 gal] but less than 1000 kg [2204.62 lb. approx. 273 gal] of hazardous waste in 1 mo?

NO

If YES, see
checklist item
HW.20.1
through
HW.45.5

4. Does the facility generate more than 1000 kg [2204.62 lb. approx 273 gal] of hazardous waste in 1 mo?

NO

If YES, see
checklist item
HW.55.1
through
HW.90.6

**RESPONSE REFERENCE
IN TEAM**

(NOTE: Any waste which is not excepted, which is listed in 40 CFR 261, or which exhibits the following characteristics is a hazardous waste:

- Ignitability (flash point <140 F) or
- Corrosivity (pH < 2 or > 12.5) or
- TCLP Toxicity (for As, Ba, Cd, Cr, Pb, Hg, Se, Ag, and selected pesticides or
- Reactive. (or CN).)

The following are hazardous wastes that may typically be found at a facility (check if used at this facility and indicate amount used):

- Solvents _____

(This includes trichloroethane, Methylene Chloride, Tetrachloroethylene, 1,1,1 Trichloroethane, Carbon tetrachloride, Chlorinated Fluorocarbons, Toluene, MEK, Mineral spirits, and Xylene.)

- Liquid paint 10 gal
- Paint stripper, remover or thinner Thinner 1 gal
- Spray paint booth air filters _____
- Pesticides, insecticides, herbicides _____
- NRC filters and test kits _____
- Super tropical bleach _____
- Ordnance, ammunition, explosives and residues _____
- Battery acid and caustics in unserviceable batteries _____
- Pharmaceuticals _____
- POL tank farm fuel system filters _____
- De-icing solution _____
- Printing ink, ink solvents, and cleaners _____
- Absorbent material and soil contaminated with hazardous waste _____
- Other Epoxy Adhesive 1 gal
- Other _____
- Other _____

5. What Hazardous Waste permits have been applied for?

None

If any, see
checklist item
HW.1.3

Part A

Part B

Interim Status

None needed

6. Does the facility accept wastes from other facilities for treatment, storage, or disposal?

No

If YES, see
checklist item
HW.105.1
through
HW.170.5

7. Does the facility operate accumulation points?

NO

See checklist
items based on
how much is
generated

How many? _____

Where? _____

	RESPONSE	REFERENCE IN TEAM
8. Does the facility operate satellite accumulation points? How many? _____	<u>NO</u>	See checklist items based on how much is generated
9. Does the facility treat hazardous waste onsite? How and where? _____	<u>N/A</u>	If YES, see checklist item HW.105.1 through HW.255.3
10. Does the facility store (temporary or long term) hazardous waste onsite at other than an accumulation point? Where? _____	<u>N/A</u>	If YES, see checklist item HW.105.1 through HW.255.3
11. Does the facility dispose of hazardous waste onsite? How and where? _____	<u>NO</u>	If YES, see checklist item HW.105.1 through HW.255.3

RESPONSE

**REFERENCE
IN TEAM**

Section 5. Natural Resources Management

- | | | |
|---|------------------|---|
| <p>1. Does the facility have any outdoor recreation areas? (i.e., athletic fields, walking/hiking tracks, off-road vehicles tracks, etc.)</p> | <p><u>NO</u></p> | <p>If YES, see checklist item NR.1.3</p> |
| <p>2. Does the facility have a plan for managing its natural resources?</p> | <p><u>NO</u></p> | <p>See Supplement</p> |
| <p>3. Are there any areas on the facility that have:</p> | <p><u>NO</u></p> | <p>If YES, see checklist item NR.10.1 through NR.10.3</p> |
| <p> A. Wetlands? If so, are they permitted/regulated by definition?</p> | | |
| <p> B. Flood Plains?</p> | | |
| <p> 25-yr _____</p> | | |
| <p> 50-yr _____</p> | | |
| <p> 100-yr _____</p> | | |
| <p> C. Shoreline? _____</p> | | |
| <p> D. Forests? _____</p> | | |
| <p>4. Has a survey to locate and identify threatened and endangered species and critical habitats been initiated?</p> | <p><u>NO</u></p> | <p>If YES, see checklist item NR.20.1 through NR.20.3</p> |
| <p>5. Does the facility have any endangered species on its property?</p> | <p><u>NO</u></p> | <p>If YES, see checklist item NR.20.1 through NR.20.3</p> |

RESPONSE**REFERENCE
IN TEAM****Section 6. Other Environmental Issues**

1. Has the facility recently (within the past 5 yr) prepared, or is it in the process of preparing, an environmental assessment (EA) or environmental impact statement (EIS)?

NO

If YES, see
checklist item
O1.1.1 through
O1.5.14

For current mission?

For future Master Plan?

Any construction projects, timber sales, etc.?

2. Does the facility have any operations that produce environmental noise or noise that goes outside the facility (i.e., ranges, skeet ranges, helicopter pad, generators, highway transportation)?

yes

If YES, see
checklist item
O2.1.1 through
O2.1.3

3. Is the facility engaged in any real property transaction?

NO

If YES, see
checklist item
O5.1.1 through
O5.1.3 and see
Supplement

RESPONSE	REFERENCE IN TEAM
----------	----------------------

Section 7. Pesticide Management

1. Does the facility use pesticides?

YES

If YES, see
checklist item
PM.5.1 through
PM.20.2

Contractor application? X

In-house application? _____

Both contractor and in-house application? _____

2. Are any pesticide wastes disposed of at the facility?

NO

If YES, see
checklist item
PM.55.1

3. Are pesticides stored on the facility?

NO

If YES, see
checklist item
PM.45.1
through PM.45.2

Please list locations.

4. What are the pesticides used at the facility?
(Attach a separate list if necessary)

NO

NA

5. Are pesticides used at offsite satellite facilities?

NO

If YES, see
checklist item
PM.5.1 through
PM.45.2

6. Does the facility maintain a pesticide/entomology shop?

NO

If YES, see
checklist item
PM.45.1
through PM.45.2

If YES, is it permitted by the state?

7. Is there an annual inventory available for review?

YES

See Supplement

RESPONSE

**REFERENCE
IN TEAM**

Section 8. Petroleum, Oil, and Lubricant (POL) Management

1. Does the facility have a current (3 yr old or less) Spill Prevention Control and Countermeasure (SPCC) plans?

NO

If YES, see checklist item PO.5.1 through PO.5.7

2. Is the SPCC/ISC exercised annually (mock spill events conducted)?

NO

If YES, see checklist item PO.5.1 through PO.5.7

3. Does the facility store used oil?

yes

If YES, see checklist item PO.60.1 through PO.90.1

Where?

Maintenance Shop

4. Does the facility have any pipelines?

NO

If YES, see checklist item PO.40.1 through PO.40.10

5. Does the facility operate any service stations?

NO

If YES, see checklist item PO.45.1 through PO.45.4

RESPONSE

REFERENCE
IN TEAM

Section 9. Solid Waste Management

1. Does the facility have a solid waste management facility onsite?

TYPE

NUMBER

Landfill

Incinerator

Transfer Point

2. Does the facility contract out the collection of its solid waste?

3. Does the facility have a:

solid waste recycling program? List commodities recycled:

Paper, Glass, Plastics, Alumin. Cans.

Construction debris landfill:

Is it permitted?

Operated by: _____

4. Is waste transported offsite for disposal?

In landfills? X

In incinerators? _____

Transfer Stations? X

Recycling plant? X

5. Does the facility dispose of ash residue or sludge:

Offsite? _____

Onsite? _____

6. Does the facility receive refuse from outside the United States?

If YES, is laboratory testing performed? _____

7. Does the facility operate battery shops, including charging areas within vehicle maintenance facilities?

If YES, how many? 2

NO

If YES, see
checklist item
SO.30.1 through
SO.95.2

NO

If YES, see
checklist item
SO.10.1 through
SO.10.6

YES

If YES, see
checklist item
SO.25.1 through
SO.25.4

YES

If YES, see
checklist item
SO.1.3

NO

If YES, see
checklist item
SO.1.3

NO

If YES, see
checklist item
SO.100.1

YES

If YES, see
checklist item
SO.1.3

RESPONSE

REFERENCE
IN TEAM

Section 10. Storage Tank Management

1. Does the facility have aboveground storage tanks (ASTs) used for the storage of petroleum products or hazardous waste?
(Attach additional page if necessary)

YES

If YES, see
checklist item
ST.5.1 through
ST.20.3 and
ST.100.1
through
ST.150.2

Location	Substance	Capacity
N.B. Camp Bldg.	Diesel Fuel	135 G
Flt " "	Diesel Fuel	135 G
NB Apartment Bldg.	Diesel Fuel	825 G

2. Does the facility have any USTs?

NO

If YES, see
checklist item
ST.25.1 through
ST.95.7

Location	Quantity	Size	Material Stored	Permitted

(Attach a separate inventory sheet if necessary)

3. Does the facility have any USTs out-of-service or abandoned?

NO

If YES, see
checklist item
ST.95.1 through
ST.95.7

4. Is there a program in place to manage unserviceable/abandoned tanks?

NO

If YES, see
checklist item
ST.95.1 through
ST.95.7

RESPONSE

REFERENCE
IN TEAM

Section 11. Toxic Substances Management

1. Has the facility conducted a survey for PCBs?

YES

If YES, see
checklist item
T1.10.1 through
T1.10.3

2. Are PCBs or PCB-contaminated oils in use or stored at the facility in:

NO

If YES, see
checklist item
T1.20.1 through
T1.20.9 and
T1.30.1 through
T1.35.1

Transformers _____

Capacitors _____

Electromagnets _____

Heat Transfer or Hydraulic Systems _____

Circuit Breaker _____

Fluorescent Light Ballasts _____

Other _____

3. Does the facility dispose of PCBs or PCB items at the facility

NO

If YES, see
checklist item
T1.50.1 through
T1.50.11

4. Does the facility transport PCBs

NO

If YES, see
checklist item
T1.45.1 through
T1.45.2

5. Has the facility conducted a complete facility-wide asbestos survey?

See Supplement

6. Does an Asbestos Management Plan exist?

See Supplement

7. Is maintenance done on items insulated with asbestos?

If YES, see
checklist item
T2.5.1 through
T2.10.1

8. Has the facility undergone any asbestos removal projects in the past?

If YES, see
checklist item
T2.5.1 through
T2.10.1

How long ago? _____

By contract or in-house? _____

9. Is there any asbestos on the facility that has been removed and is awaiting disposal?

If YES, see
checklist item
T2.15.1 through
T2.15.4

10. Will the facility have any demolition, remodeling, or renovation projects underway at the time of the assessment?

If YES, see
checklist item
T2.5.1 through
T2.10.1

Please identify those projects and buildings.

	RESPONSE	REFERENCE IN TEAM
11. Is asbestos material removed by contract or in-house personnel?	<u>NO</u>	If YES, see checklist item T2.10.1
12. Does the facility monitor for radon gas?	<u>YES</u>	If YES, see checklist item T3.1.1 through T3.1.3
13. Is there a program to reduce radon threat?	<u>NO</u>	See Supplement
14. Has the facility populace been informed of the final status?	<u>YES</u>	See Supplement
15. Is the facility performing any lead based paint removal?	<u>NO</u>	If YES, see checklist item T4.1.1 through T4.1.3

RESPONSE

REFERENCE
IN TEAM

Section 12. Wastewater Management

1. Does the facility have a National Pollutant Discharge Elimination System (NPDES) and/or State Pollutant Discharge Elimination System (SPDES) permit? Identify the types of discharges:

NO

If YES, see
checklist item
WA.10.1 through
WA.10.6

Stormwater runoff permits? _____

Drainage water from dredge and fill materials? _____

Wastewater treatment plant? _____

How many and what size? _____

Process wastewater? _____

Heat/Power production cooling blowdown water? _____

Stormwater runoff from fuel dispensing areas, airfields, and parking
lots/aprons and maintenance facilities? _____

Vehicle wash facilities? How many? _____

Plating shops? _____

Does the facility maintain sedimentation holding ponds or
seepage pits from vehicle/aircraft washing, maintenance shop
drainage (shop operations and motor parks), and other activities?

Operate cooling towers and pass through water? _____

Septic Systems? _____

Fresh water wetlands? _____

Industrial waste system/discharge? _____

Lines which bypass treatment structures? _____

Other? _____

2. Does the facility discharges into a publicly owned treatment works (POTW) any of the following?

NO

If YES, see
checklist item
WA.10.1 through
WA.25.9

Process wastewater? _____

Domestic (sanitary) wastewater? _____

Industrial wastewater treatment plant effluent? _____

Other? _____

3. Are there any discharge bypass lines in the system?

NO

If YES, see
checklist item
WA.25.1 through
WA.25.9

4. Does the facility have any sludge disposal areas from vehicles/equipment washing operations?

NO

If YES, see
checklist item
WA.1.3

Is the sludge analyzed or characterized on a scheduled frequency prior to disposal?

5. What percent of vehicle maintenance is performed by contract?

YES

If YES, see
checklist item
WA.1.3

Is it performed onsite or offsite? 100%

RESPONSE

**REFERENCE
IN TEAM**

Section 13. Water Quality Management

1. Does the facility operate a public drinking water system?

NO

If YES, see
checklist item
WQ.10.1
through
WQ.30.3

2. Does the facility maintain wellheads?

NO

If YES, see
checklist item
WQ.1.3

3. Does the facility operate an underground injection well?

NO

If YES, see
checklist item
WQ.1.3

4. Are there groundwater aquifers on the facility?

NO

If YES, see
checklist item
WQ.95.1

Are they in use? _____

5. Is the facility located on a sole source aquifer?

NO

If YES, see
checklist item
WQ.95.1

6. Are protective or preventative measures in place to prevent contamination of these aquifers?

N/A

If YES, see
checklist item
WQ.95.1

7. Are field water purification units used?

N/A

See Supplement

How is the backwash managed from these mobile units?

Signature of individual completing this form: _____

Date completed: _____

Feb. 23, 1996

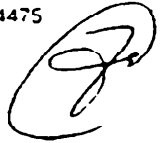
APPENDIX B: Supporting Documents

20
21

22
23

GROUNDWATER ANALYTICAL

Groundwater Analytical, Inc.
228 Main Street
Buzzards Bay, MA 02532
Telephone (508) 759-4441
FAX (508) 759-4475



October 17, 1995

Ms. Jane Heckler
Army Corp. of Engineers
Cape Cod Canal Field Office
P.O. Box J
Buzzards Bay, MA 02532

Dear Jane:

Enclosed are the Asbestos Analyses performed for the USACOE project, sampled on 09-95. This project was processed for Standard Two Week turnaround. The Asbestos Analyses were subcontracted.

A brief description of the Quality Assurance/Quality Control procedures employed by Groundwater Analytical, and a statement of our state certifications are contained within the report. This letter authorizes the release of the analytical results and should be considered a part of this report.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,



Jonathan R. Sanford
Vice President

JRS/adw
Enclosures



IEA

An Aquarion Company

149 Rangeway Road
North Billerica, MA 01862

Phone 508-667-1400
Fax 508-667-7871

October 12, 1995

Groundwater Analytical
228 Main Street
Buzzards Bay, MA 02532

Attention: Eric Jensen

Dear Eric:

Please find enclosed analysis for two (2) bulk samples, Billing Ref.: USACOE-asbestos, IEA Job# 24746. Please note our updated report format. It displays the results in an expanded format and meets current EPA, AHERA, and NVLAP requirements.

Analyses were performed using standard optical microscopy and petrographic techniques. A representative portion of the bulk sample was placed on a glass slide, immersed and macerated in appropriate index oils. This was then examined under plane and fully polarized light on the petrographic microscope. The following features were used to identify unknown particles and fibers; morphology (shape), extinction angle, crystallographic orientation, index of refraction, birefringence, size, color, etc.

Analytical results (compositions and percentages) are listed on the bulk report form attached. For purpose of these analyses asbestos determination and identification is based on definitions as set forth in the U.S. EPA Environmental Monitoring Systems Laboratory TEST METHOD "Interim method for the Determination of asbestos in Bulk Insulation Samples", EPA-600/M4-82-020, NIST/NVLAP Lab #101005-0.

Polarized - light microscopy is not consistently reliable in detecting asbestos in floor tiles. Confirmation by Transmission Electron Microscopy (TEM) is recommended for negative floor tile samples and is required by NYELAP.

Should you have further questions, or need additional information, please feel free to contact me or Client Services any time.

Sincerely,

Ernest T. Dobi
Mgr. Asbestos Services
EDT/vr

John H. Knowles
PLM Analyst

BULK ASBESTOS ANALYSIS BY IEA, INC.
149 Rangeway Road, N. Billerica, MA 01862
PLM-DS (Polarized Light Microscopy with Dispersion Staining)
(EPA METHOD EPA-600/M4-82-020)
VERSION 3.2 COPYRIGHT (c) 1991 BY IEA

10-06-1995

IEA JOB# 24746

L. POLAND

CLIENT: GROUNDWATER ANALYTICAL

PROJECT: USACOE

SAMPLE NO.: 1 LOCATION:

SAMPLE GROSS APPEARANCE: MIXED FIBROUS & NON-FIBROUS

COLOR, TEXTURE, ETC.: 1/2 ELBOW BASEMENT

NO ASBESTOS DETECTED

40 PERCENT TOTAL NON-ASBESTOS FIBER

: MINERAL WOOL

0 PERCENT TOTAL NON-FIBER MATTER

: MINERAL GRAINS

OPAQUES

BINDERS

DATE: 10-06-1995 SIGNED: _____



IEA, Inc. is accredited by the National Institute for Standards and Technology (formerly NBS), NVLAP (Lab 1005) for asbestos analysis of bulk samples by Polarized Light Microscopy with optional Dispersion Staining (PLM/DS) and meets requirements of AHERA 40 CFR 763.87(a).

Accreditation in no way constitutes or implies product certification, approval or endorsement by NIST. This report relates only to the specific sample tested herein.

BULK ASBESTOS ANALYSIS BY IEA, INC.
149 Rangeway Road, N. Billerica, MA 01862
PLM-DS (Polarized Light Microscopy with Dispersion Staining)
(EPA METHOD EPA-600/M4-82-020)
VERSION 3.2 COPYRIGHT (c) 1991 BY IEA

10-06-1995

IEA JOB# 24746

L.POLAND

CLIENT: GROUNDWATER ANALYTICAL

PROJECT: USACOE

SAMPLE NO.: 2 LOCATION:

SAMPLE GROSS APPEARANCE: MIXED FIBROUS & NON-FIBROUS
COLOR, TEXTURE, ETC.: GENERATOR MUFFLER

15 PERCENT TOTAL ASBESTOS
: 15 PERCENT AMOSITE

ASBESTOS LAB DATA	AMOSITE
Morphology:.....	STRAIGHT
Color:.....	NONE
Pleochroism:.....	NON-PLEOCHROIC
Extinction Angle:.....	P
Birefringence:.....	.033
Sign of Elongation:...	POSITIVE
Index (Parallel):.....	1.703
Index (Perpendicular):	1.67
Immersion Media:.....	1.550HD 1.680
Other Features:.....	

NO NON-ASBESTOS FIBER DETECTED
:

85 PERCENT TOTAL NON-FIBER MATTER

: MINERAL GRAINS

OPAQUES

BINDERS

DATE: 10-06-1995 SIGNED:



IEA, Inc. is accredited by the National Institute for Standards and Technology (formerly NBS), NVLAP (Lab 1005) for asbestos analysis of bulk samples by Polarized Light Microscopy with optional Dispersion Staining (PLM/DS) and meets requirements of AHERA 40 CFR 763.87(a).

Accreditation in no way constitutes or implies product certification, approval or endorsement by NIST. This report relates only to the specific sample tested herein.

Chain of Custody Record

Project Name: LSACOE			Sample Information							Analyses Requested				Lab subcontracted to: IEA			
Sampled By:			Number of Containers	Container Volume (ml)	Glass or Plastic (G/P)	Matrix (Water/Soil/Other)	Grab / Composite	Preservative (Type)	Filtered (Yes/No)	Total / Fecal Coliform	COD	MBAS	Asbestos				
Date	Time	Sample Identification															Remarks
9/95		1/2 ELBOW BASEMENT 1															Sample 1
↓		GENERATOR HUFFER											X				Sample 2

Reporting and Billing Information		Turnaround and Special Instructions		Custody Record																			
GROUNDWATER ANALYTICAL 228 Main Street, Buzzards Bay MA 02532 Telephone: 508-759-4441 Fax: 508-759-4475 Contact Person: Eric Jensen Purchase Order Number: _____ Please Fax Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Results Due: <u>10/10/95</u> Special Instructions: _____ _____ _____ _____ <input type="checkbox"/> MA DEP Form Required		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 70%;">Signature</th> <th style="width: 15%;">Time</th> <th style="width: 15%;">Date</th> </tr> <tr> <td>Relinquished By: <u>Arian B. Maddigan</u></td> <td>2:30 PM</td> <td>10/3/95</td> </tr> <tr> <td>Received By: _____</td> <td> </td> <td> </td> </tr> <tr> <td>Received By: _____</td> <td> </td> <td> </td> </tr> <tr> <td>Received in Lab By: <u>M. G. Swick</u></td> <td>14:30</td> <td>10-3-95</td> </tr> <tr> <td colspan="3"> Method of Shipment: <input type="checkbox"/> USPO Express Mail <input type="checkbox"/> Federal Express <input type="checkbox"/> Hand <input type="checkbox"/> Other <input checked="" type="checkbox"/> GWA Courier </td> </tr> </table>		Signature	Time	Date	Relinquished By: <u>Arian B. Maddigan</u>	2:30 PM	10/3/95	Received By: _____			Received By: _____			Received in Lab By: <u>M. G. Swick</u>	14:30	10-3-95	Method of Shipment: <input type="checkbox"/> USPO Express Mail <input type="checkbox"/> Federal Express <input type="checkbox"/> Hand <input type="checkbox"/> Other <input checked="" type="checkbox"/> GWA Courier		
		Signature	Time	Date																			
		Relinquished By: <u>Arian B. Maddigan</u>	2:30 PM	10/3/95																			
		Received By: _____																					
		Received By: _____																					
Received in Lab By: <u>M. G. Swick</u>	14:30	10-3-95																					
Method of Shipment: <input type="checkbox"/> USPO Express Mail <input type="checkbox"/> Federal Express <input type="checkbox"/> Hand <input type="checkbox"/> Other <input checked="" type="checkbox"/> GWA Courier																							

BULK ASBESTOS ANALYSIS BY IEA, INC.
149 Rangeway Road, N. Billerica, MA 01862
PLM-DS (Polarized Light Microscopy with Dispersion Staining)
(EPA METHOD EPA-600/M4-82-020)
VERSION 3.2 COPYRIGHT (c) 1991 BY IEA

10-06-1995

IEA JOB# 24746

L. POLAND

CLIENT: GROUNDWATER ANALYTICAL

PROJECT: USACOE

SAMPLE NO.: 2 LOCATION:


SAMPLE GROSS APPEARANCE: MIXED FIBROUS & NON-FIBROUS
COLOR, TEXTURE, ETC.: GENERATOR MUFFLES

15 PERCENT TOTAL ASBESTOS
: 15 PERCENT AMOSITE

ASBESTOS LAB DATA	AMOSITE
Morphology:.....	STRAIGHT
Color:.....	NONE
Pleochroism:.....	NON-PLEOCHROIC
Extinction Angle:.....	P
Birefringence:.....	.033
Sign of Elongation:...	POSITIVE
Index (Parallel):.....	1.703
Index (Perpendicular):	1.67
Immersion Media:.....	1.550HD 1.680
Other Features:.....	

NO NON-ASBESTOS FIBER DETECTED
:

85 PERCENT TOTAL NON-FIBER MATTER
: MINERAL GRAINS OPAQUES BINDERS

DATE: 10-06-1995 SIGNED: 

IEA, Inc. is accredited by the National Institute for Standards and Technology (formerly NBS), NVLAP (Lab 1005) for asbestos analysis of bulk samples by Polarized Light Microscopy with optional Dispersion Staining (PLM/DS) and meets requirements of AHERA 40 CFR 763.87(a).

Accreditation in no way constitutes or implies product certification, approval or endorsement by NIST. This report relates only to the specific sample tested herein.

Project: USACOE
Client: USACOE

Lab ID: 11936
Received: 09-95

A. Physical Condition of Sample(s)

This project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged in appropriate containers with the correct preservation.

B. Project Documentation

This project was accompanied by Chain of Custody documentation, with the following amendments or corrections:

1. Samples 11936-01 and -02 were received in one 1L metal coffee container each.
2. Samples 11936-01 and -02 were transferred into one plastic bag each upon receipt by the laboratory.

C. Analysis of Sample(s)

No analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples. All data contained within this report are released without qualification.

GROUNDWATER ANALYTIC

228 Main Street
Buzards Bay, MA 02532
Telephone (508) 759-4441
FAX (508) 759-4475

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

MS 204

Project Name: U.S. Army Corps of Engineers

Project Number: Academy Drive

Sampler Name: City / State / Zip: Buzzards Bay, MA 02532

Sampler: John Heckler Telephone: 508 759-4431

TURNAROUND

☒ STANDARD (10 Business Days)
☐ PRIORITY (5 Business Days)
☐ RUSH (RAN-)
(Rush requires Rush Authorization Number)
 Please FAX ☐ YES ☐ NO
 FAX Number: _____

BILLING

Purchase Order No.: _____ GWA Reference No.: _____

INSTRUCTIONS: Use one line for each container (except duplicates).

Sampling	TIME	SAMPLE IDENTIFICATION	Matrix		Type	Container(s)										Preservation				Filtered		LABORATORY NUMBER (Lab Use Only)
			WATER	SOIL		NUMBER	40ML VOC/VOL	120ML VOC/VOL	1L GLASS (Synth)	200ML GLASS	1L PLASTIC	200ML PLASTIC	120ML STERILE			HCl	HNO ₃	H ₂ SO ₄	ICE	YES	NO	
5		1/2 lb. Rosemont		X	COMPOSITE				X													11936-01
15		Generator Muffler		X					X													↓ 02

ANALYSIS REQUEST

Volatiles	Semi-volatiles	Post-Harvest PCBs	Metals	Asbestos/Hydrocarbon	Trace	General Chemistry
<input type="checkbox"/> Dioxin Level <input type="checkbox"/> Dioxin <input type="checkbox"/> DTC Seque <input type="checkbox"/> DTC <input type="checkbox"/> DTC <input type="checkbox"/> DTC	<input type="checkbox"/> Dioxin Level <input type="checkbox"/> Dioxin Only <input type="checkbox"/> Dioxin Only <input type="checkbox"/> DTC Seque <input type="checkbox"/> DTC Seque	<input type="checkbox"/> Dioxin Level <input type="checkbox"/> Dioxin Only <input type="checkbox"/> Dioxin Only <input type="checkbox"/> DTC Seque <input type="checkbox"/> DTC Seque	<input type="checkbox"/> Dioxin Level <input type="checkbox"/> Dioxin Only <input type="checkbox"/> Dioxin Only <input type="checkbox"/> DTC Seque <input type="checkbox"/> DTC Seque	<input type="checkbox"/> Dioxin Level <input type="checkbox"/> Dioxin Only <input type="checkbox"/> Dioxin Only <input type="checkbox"/> DTC Seque <input type="checkbox"/> DTC Seque	<input type="checkbox"/> Dioxin Level <input type="checkbox"/> Dioxin Only <input type="checkbox"/> Dioxin Only <input type="checkbox"/> DTC Seque <input type="checkbox"/> DTC Seque	<input type="checkbox"/> Dioxin Level <input type="checkbox"/> Dioxin Only <input type="checkbox"/> Dioxin Only <input type="checkbox"/> DTC Seque <input type="checkbox"/> DTC Seque

REMARKS / SPECIAL INSTRUCTIONS

Call when done
Do not mail

DATA QUALITY OBJECTIVES

Regulatory Program

☐ Safe Drinking Water Act
☐ NPDES/Clean Water Act
☐ RCRA/Haz. Waste Char.
☐ MA MCP (310 CMR 40)
 Reportable Concentrations
☐ RCGW - 1 ☐ RCS - 1
☐ RCGW - 2 ☐ RCS - 2
☐ Other: _____

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. For water samples, each MS, MSD and Sample Duplicate requires an additional sample aliquot.

Project Specific QC Required
☐ Sample Duplicates
☐ Matrix Spike
☐ Matrix Spike Duplicate

Selection of QC Sample
☐ Selected by laboratory
☐ Please use sample _____

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Relinquished by Sampler:	Date	Time	Received by:
<u>[Signature]</u>	<u>4/2</u>	<u>15/1970</u>	<u>[Signature]</u>
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:

Method of Shipment: ☐ GWA Courier ☐ Express Mail ☐ Federal Express
☐ UPS ☐ Hand ☐ _____

Shipping/Arrival _____
 Custody Seal _____
 Cooler Serial _____

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE QA/QC Program Statement

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA SW-846, Third Edition (Revised 1992).

Quality Control protocols include Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Equipment and facility maintenance conform to Good Laboratory Practices (GLPs). Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one calibration standard, one method blank, one laboratory control sample, and one matrix spike and one sample duplicate for each sample batch. All samples, standards, blanks, laboratory control samples and matrix spikes are spiked with internal standards and surrogate compounds. GC/MS systems are tuned to BFB ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one calibration standard, one method blank, one laboratory control sample, one matrix spike and one sample duplicate for each sample batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples which are analyzed together with the same method sequence and the same lots of reagents and with the same manipulations common to each sample within the same continuum of time within a 24 hour period.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target compounds representative of the method analytes. Accuracy is defined as the degree of agreement of a measured value with the true or expected value. Percent Recoveries for the Laboratory Control Sample are calculated to assess accuracy.

Surrogate Compounds are used to assess the effectiveness of the method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to organic analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

**QUALITY ASSURANCE
State Certification**

CONNECTICUT

Department of Health Services

**Certificate Number
PH-0586**

Potable Water. Wastewater/Trade Waste. Sewage/Effluent. and Soil: Purgeable Halocarbons. Purgeable Aromatics. Pesticides. Phenols. Oil and Grease. Aluminum. Antimony. Arsenic. Beryllium. Cadmium. Chromium-T. Chromium-VI. Cobalt. Copper. Iron. Lead. Magnesium. Manganese. Mercury. Nickel. Potassium. Selenium. Silver. Sodium. Thallium. Tin. Vanadium. Zinc. Cyanide. TDS. Ammonia. TKN. Nitrate. Ortho-Phosphate. Alkalinity. Hardness. Chloride. Fluoride. pH. Conductivity

MAINE

Department of Human Services

**Certificate Number
N/A**

Reciprocal certification in accordance with Massachusetts certification for drinking water parameters.

MASSACHUSETTS

Department of Environmental Protection

**Certificate Number
MA103**

Potable Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Nitrate-N, Fluoride, Cyanide, Calcium, Total Alkalinity, Total Dissolved Solids, pH, Langelier Index, Trihalomethanes, Volatile Organic Compounds, 1,2-Dibromoethane, 1,2-Dibromo-3-chloropropane. Non-Potable Water: Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Titanium, Vanadium, Zinc, pH, Specific Conductivity, Total Dissolved Solids, Total Hardness, Calcium, Magnesium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Ammonia-N, Nitrate-N, Kjeldahl-N, Orthophosphate, Total Cyanide, Oil and Grease, Total Phenolics, Volatile Halocarbons, Volatile Aromatics, Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, Polychlorinated Biphenyls (Water), Polychlorinated Biphenyls (Oil).

MICHIGAN

Department of Public Health

**Certificate Number
N/A**

Drinking Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Cyanide, Fluoride, Lead, Mercury, Nickel, Nitrate, Nitrite, Selenium, Silver, Sodium, Sulfate, Thallium, Total Trihalomethanes, Regulated and Unregulated Volatile Organic Chemicals.

NEW HAMPSHIRE

Department of Environmental Services

**Certificate Number
202791-A/B**

Drinking Water: Lead, Selenium, Silver, Thallium, Trihalomethanes, Volatile Organics, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Mercury, Nickel, Fluoride, Total Filterable Residue, Calcium, Alkalinity, pH, Corrosivity, Total Cyanide, Vinyl Chloride, DBCP and EDB. Wastewater: Arsenic, Beryllium, Cadmium, Cobalt, Copper, Iron, Mercury, Manganese, Nickel, Lead, Selenium, Zinc, Antimony, Silver, Thallium, Molybdenum, Strontium, pH, Total Hardness, Calcium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Nitrate-N, TKN, Orthophosphates, Total Phenolics, Oil & Grease, PCBs in Oil, Pesticides, Volatile Organics, Titanium, Total Cyanide, PCBs in Water.

RHODE ISLAND

Department of Health

**Certificate Number
A54**

Potable Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Nitrate, Nitrite, Fluoride, Turbidity, Chlorine, Total Filterable Solids, Calcium, pH, Alkalinity, Sodium, Corrosivity, Sulfate, Cyanide, Trihalomethanes, Chlorinated Hydrocarbon Pesticides, PCBs, Herbicides, Volatile Organic Compounds (EPA 524.2 and 504) and PAHs. Non-potable and Waste Waters: Aluminum, Arsenic, Beryllium, Cadmium, Cobalt, Chromium, Copper, Iron, Mercury, Manganese, Nickel, Lead, Selenium, Vanadium, Zinc, Antimony, Silver, Thallium, Molybdenum, Strontium, Titanium, pH, Conductance, TDS, Hardness, Calcium, Magnesium, Sodium, Potassium, Alkalinity, Chloride, Fluoride, Sulfate, Ammonia, Nitrate, Orthophosphate, TKN, Total Phosphorous, Cyanide, Non-filterable solids, Oil and Grease, Total Phenolics, Chlorine, PCBs in Water, PCBs in Oil, Chlorinated Hydrocarbon Pesticides, Volatile Halocarbons, Volatile Aromatics, Acid Extractables and Base/Neutral Extractables.